

Application No. 10/761,745  
Atty. Docket No. 2002B124/2  
Response dated May 8, 2006  
Reply to final Office Action of March 22, 2006

---

**Amendment to the Claims:**

This listing of the claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1-58 (Canceled)

59. (Currently Amended) A feed vaporization and introduction system for a methanol to olefin (MTO) reactor, comprising:

an oxygenate inlet for receiving a methanol feedstock, wherein the inlet includes ~~a~~ one or more heating devices for vaporizing the feedstock;

an oxygenate feed introduction nozzle connected by one or more lines to the inlet, the nozzle including a first generally tubular member defining a feedstock pathway, the tubular member having a first end for receiving a feedstock from ~~a~~ the one or more heating ~~unit~~ devices, a second end adjacent a reactor unit, and an inner surface forming a conduit for delivering the feedstock from the first end to the second end, wherein at least a portion of the inner surface is formed of a commercial alloy resistant to the formation of metal catalyzed side reaction byproducts, which alloy is selected from the group consisting of 754, TD, 758, 602, 690, 276, 263, DS, 302, 803, 864, 410, 304, 316, 400, 330, 800, 600, 825, 601, 625, 617, 956, 693 and 671; and

a second larger diameter cylindrical tube oriented coaxially to the feed introduction nozzle thereby forming an outer cooling pathway around the feedstock pathway, wherein the cooling pathway is closed-off at an end corresponding to the first end of the nozzle so that cooling medium can flow toward the reactor unit and exit the feed introduction nozzle within the reactor unit through a diluent outlet.

60-94. (Canceled)

95. (Currently Amended) The feed vaporization and introduction system of claim ~~60~~59, wherein the ~~first material is a~~ commercial alloy is selected from the group consisting of 825 and 400.

Application No. 10/761,745  
Atty. Docket No. 2002B124/2  
Response dated May 8, 2006  
Reply to final Office Action of March 22, 2006

---

96-101. (Canceled)

102. (Currently Amended) The feed vaporization and introduction system of claim ~~6059~~, wherein the ~~first material is a~~ commercial alloy is selected from the group consisting of TD, 758, 625, 601 and 276.

103. (Currently Amended) The feed vaporization and introduction system of claim ~~6059~~, wherein the ~~first material is a~~ commercial alloy is selected from the group consisting of 693, 602, 690, 671, 617, 263 and 956.

104. (New) An oxygenate feed vaporization and introduction system for a methanol-to-olefin (MTO) reactor, comprising:

an oxygenate feed introduction nozzle including a first generally tubular member having a first end for receiving an oxygenate feedstock from a heating device, a second end adjacent a reactor unit, and an inner surface forming a conduit for delivering the oxygenate feedstock from the first end to the second end, wherein at least a portion of the inner surface is formed of a metal alloy that is resistant to the formation of metal catalyzed side reaction byproducts from the oxygenate feedstock.

105. (New) The feed vaporization and introduction system of claim 104, wherein the metal alloy is selected from the group consisting of commercial alloys 410, 304, 316, 400, 330, 800, 600, 825, 601, 625, 617, 956, 693, and 671.

106. (New) The feed vaporization and introduction system of claim 104, wherein the metal alloy is selected from the group consisting of commercial alloys 825 and 400.

107. (New) The feed vaporization and introduction system of claim 104, wherein the metal alloy is selected from the group consisting of commercial alloys TD, 758, 625, 601, and 276.

108. (New) The feed vaporization and introduction system of claim 104, wherein the metal alloy is selected from the group consisting of commercial alloys 693, 602, 690, 671, 617, 263, and 956.